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ABSTRACT

In this paper the author examines the question of whether evolution is a theory or a dogma. He refutes the contention that there is a monolithic scientific conspiracy to present evolution as dogma and suggests that his own presentation might be more appropriately entitled "Creationism: Theory or Dogma." (PEB)

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Evolution: Theory or Dogma?

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Evolution: Theory or Dogma?

A theory is a formulated, general principle explaining the operation of certain phenomena and supported by considerable evidence. Evolution was accepted as a theory over a hundred years ago and, in the intervening century, more evidence in its support has accumulated. The fact that we, in the latter half of the Twentieth Century, are expending our time examining an issue effectively settled in the Nineteenth Century, indicates that those who do not understand history are, indeed, compelled to repeat it. Theoretical constructs of evolution can be traced back over 4,000 years to Anaximander. The evolutionary concept is not new but the apparent conflict concerning it had to await those who interpreted the Christian Bible as the unquestioned source of exact and irrefutable scientific statements. They view Christian religion and the King James biblical story as the exclusive carriers of their creation beliefs. No quarter is given those who interpret biblical accounts in a different manner and beliefs of non-Christians are not considered. And this, of course, is where dogma enters as a doctrine or body of doctrines formally and authoritatively affirmed.

The position of the dogmatists against evolution has been well summarized by one of their spokesman in four basic statements that can be categorized as follows:

The first is, that evolution is non-scientific. A typical creationist quote is as follows:

> "We think it difficult to find a theory fuller of assumptions [than Darwin's theory of natural selection], and of assumptions not grounded upon alleged facts in nature but which are absolutely opposed to all the facts we have been able to observe."

Secondly, they state that there is no evidence that variation has caused the creation of species, again evidenced by a quote from the same source.

"We have already shown that variations of which we have proof under domestication have never, under the longest and most continued system of selections we have known, laid the first foundation of a specific difference, but have always tended to relapse, and not to accumulated and fixed persistence."

Thirdly, the charge is made that most mutations are deleterious. Again I quote.

"All these variations have the essential characteristics of monstrosity about them; and not one of them has the character which Mr. Darwin repeatedly reminds us is the only one which nature can select, namely, of being an advantage to the selected individual in the battle for life, that is an improvement upon the normal type by raising some individual of the species not to the highest possible excellence within the species, but to some evidence above it."

Fourthly, they point to the failure of the fossil record to provide a continuous integradation of stages of change in plant and animal life through time as evidence in this statement.

"In the vast museum of departed animal life which the strata of the earth imbed for our examination, whilst they contain far too complete a representation of the past to be set aside as a mere imperfect record, yet afford no one instance

> of any such change as having ever been in progress, or give us anywhere the missing links of the assumed chain, or the remains which would enable now existing variations, by gradual approximations, to shade off into unity."

Creationists, in attacking the theory of evolution consistently, reiterate that they are doing so from a purely objective and scientific basis. A quote from the same individual exemplifies this position. "Our readers will not have failed to notice that we have objected to the views with which we have been dealing solely on scientific grounds." Unfortunately, the scientific grounds trail off in the same paper to theologic dogma when the same individual says,

> "Now we must say at once and openly that such a notion is absolutely incompatible not only with single expressions in the word of God on that subject of natural science with which it is not immediately concerned but, which in our judgment is of far more importance, with the whole representation of that moral and spiritual condition of man which is its proper subject matter. Man's derived supremacy over the earth; man's power of articulate speech; man's gift of reason; man's free-will and responsibility; man's fall and man's redemption; the incarnation of the Eternal Son; the indwelling of the Eternal Spirit, all are equally and utterly irreconcilable with the degrading notion of the brute origin of him who was created in the image of God, and redeemed by the Eternal Son assuming to himself his nature."

These passages I have quoted encapsulate the creationists dilemma concerning evolution; their call upon science to support their position; and, failing this, their resort to theological dogma. Now the reason I feel it strange to be participating in such a session in 1973 is that all the above quotes were published by Bishop Samuel Wilberforce, known as Soapy Sam to his students, in the Quarterly Review for July 1860. Unfortunately, they were published anonymously but Bishop Wilberforce ultimately came to acknowledge them as his own. It is strange that with the creationist dogma so well stated 113 years ago, that it reappears essentially unchanged today. In the meantime, the evidence on which the theory of evolution rests has been buttressed by genetics, biochemistry, and whole new scientific fields unknown over a century ago. Thus, while the data supporting the theory of evolution itself have evolved and data in its support have become more numerous and representative of a wider variety of disciplines, the creationist dogma remains unchanged.

Creationists have had difficulty getting their authoritative theological dogma accepted as science but recently, in the State of California, they proposed the inclusion of creation "theory" as a viable alternative to evolutionary theory. Creationists widely used the terminology creation "theory." The other speaker on this program wrote a paper entitled "Comments on Possible Relation of Theory of Evolution and Theory of Creation in a Science Course" in which he mentioned the theory of creation no less than a dozen times in the seven pages of his document. It is interesting to note that despite a widespread use of the term "creation theory" and its acceptance over the protests of the scientific community by the State Board of Education of the State of California and its mandatory inclusion in the Science Framework of that state, there is no place where this theory is delineated. The theory is not stated; the evidence upon which it rests is not

given; its hypotheses and data are unknown. Thus, we have the ludicrous situation where a nonexistent theory has been incorporated into the Science Framework of the State of California by a gullible and naive board. The selling of creation "theory" is the greatest con-job since the emperor's new clothes. It would seem not unreasonable, before the acceptance of a theory, that it should at least be stated in such a way as it can be examined. I caution those here when they hear the term "creation theory" to at least ask the person mentioning it to explain what it is and to cite some of the scientific evidence on which it rests. This unfortunate terminology has been picked up as if such a theory actually exists and used by the gullible and the uninformed.

However, having implanted the concept of a creation "theory" in the minds of the gullible, we now find it to have almost vanished from creationist literature. In his original paper, the other speaker said, "A major prediction of the theory of creation would be that researchers would expect to find gaps between distinct kinds or forms of living animals and plants." But in the January 1973 issue of the American Biology Teacher, the same sentence from a similar paper by the same author states, "A major prediction from the creation model would be that researchers would find gaps between distinct kinds or forms of living animals and plants." Somewhere the creation "theory" has become lost and one must recognize that many times we are playing word games. For example, Henry M. Morris, who is President of the Creation Research Society, states, "It really makes no difference whether we use the term model or theory." To most of us in science, it makes a great deal of difference.

Bolton Davidheiser, a creationist, says, "Unfortunately, men involved in the amending of the Science Framework (and this refers to the State of California) used the term theory in connection with creation. Quite properly, Professor Mayer

attacks this. If it is agreed that the concept of creation is not scientific, the term theory regarding it is inappropriate." He continues, "When the Science Framework was adopted as amended some creationists immediately began discussing how best to put creationism on a scientific basis. This, of course, cannot be done and an attempt to do so merely leads to some sort of theistic evolution, a position which is not acceptable to real creationists." Thus, from one of the leaders of the creationist movement an indication that there is no such thing as a creation "theory" and that creationism is not scientific. If not theory and not scientific, it must be dogma.

In the examination of whether evolution is a theory or dogma, it would be difficult to find a less dogmatic theoretical base than evolution. If one makes even a cursory examination of the literature on the subject, he finds a great deal of controversy, criticism, variance of opinion, and differences in interpretation of data. There is hardly a monolithic scientific conspiracy to present evolution as dogma. It is to the critics of evolution to whom the label dogmatist can be applied. For example, in a two-hour radio debate over radio station KABC in Los Angeles earlier this year, Dr. Robert Kofhal, Science Coordinator for the Creation-Science Research Center in San Diego, indicated he was busy making recommendations concerning science textbooks to be used in the State of California and was doing this essentially alone. When presented with the statement that "There are very excellent men who are not in the Creation Research Society in California, numbers of Nobel Prize winners, others, are you planning to use these as well?" He replied, "They've had their day in court already. They've already go the control of these books and we want the other side of the scientific evidence which supports intelligent purposeful design." When questioned how he knew that the earth was young, less than 10,000 years old, he replied, "I know the earth is young because

God's word says it is young." When he and Mrs. Seagraves of the Creation-Science Research Center were told that evolutionary theory itself is evolving and subject to modification and asked if they felt that the origin of life and of the major organisms may have been created by a special creative process of God, they replied, "Oh, no, we're sure that they were." From this type of evidence, it would seem our presentation this afternoon is wrongly titled. It should be Creationism: Theory or Dogma.

The entire situation would be ludicrous except for the gullibility and credibility exhibited relative to matters of science and science education. In California in 1968 and 1969, a State Advisory Committee on Science Education composed of distinguished scientists and educators prepared a Science Framework for the public schools of that state. In a commendable display of democratic involvement, they held a series of conferences throughout the state so that nearly 1,000 people had the opportunity to react to the Framework--hardly a dogmatic approach. When presented to a Board of Education packed by Governor Reagan with creationists, the Board, over the protests of the State Advisory Committee on Science Education and against the recommendations of the majority of the state's scientists and science educators, substituted two paragraphs presented from the floor by a fellow creationist for the carefully prepared Statements that had been worked on for over two years by the scientists and educators of the State of California, this must certainly be the most dogmatic and callous administrative disregard of the teachers and others in the educational field as well as a rejection of the opinions of the scientific community that any bureaucratic agency has exemplified in recent years. Those of you who have had your professional views overridden by administrators of school boards in the past can have some sympathy with those who had labored so long and hard to produce a modern and intelligent Science Framework for the State of

California only to have it altered by dogmatism and caprice. We are confidently assured by Mr. Grose, the creationist whose material now appears in the Science Framework of the State of California, that his recommendations are being seriously considered in other states.

Here again, while there seems to be a renaissance of antievolutionism, this, too, is not new. It was in 1927 that antievolution bills were defeated in Arkansas, Oklahoma, Missouri, West Virginia, Delaware, Georgia, North Carolina, South Carolina, Florida, California, and Minnesota. This antievolution picture is effectively summarized by S. J. Holmes of the University of California in 1927 when he said, "The real driving force back of the ant.evolution crusade is of course religious intolerance. A large and determined body of individuals have deliberately set out to have their own religious dogmas protected by law. Anything which disagrees with their peculiar brand of theology simply must not be taught, and they attempt to protect their beliefs by putting every teacher in an intellectual straightjacket. Their real object is the practical establishment of a state church founded on a reactionary form of fundamentalist Christianity which is unacceptable alike to men of science and to liberal minded members of orthodox denominations." He further states, "Let us not be deceived as to the fundamental issue before us. It really has nothing to do with whether the theory of evolution is true or false. In any case, it would be ridiculous to try and settle such a matter by legislative enactment. The real question is whether or not we wish to make an intellectual slave of every teacher in a state supported institution and force him to square his teaching with the dogmas of any group which succeeds in getting legislative protection for its doctrines."

With the banning of evolution no longer feasible in the 1970s, the anti-evolution forces suggest now only that they want fair play and equal time for their

"theory," which is now part of the California State Framework. In Senate Bill No. 67 introduced January 30 of this year in the Michigan Senate, we read, "When the scientific theory of evolution is taught in a course in a public school, a Biblical story of creation shall also be taught in the same course with an equal amount of time devoted thereto as an historical version of the subject." While teachers may be bemused by what is meant by "a Biblical story of creation" and may have trouble assessing equal amounts of time, the bill is typical of the current antievolution drive. Failing to dispense with the subject of evolution, they now counter it with requests for an equal amount of Biblical story telling. In the Michigan situation at least, no attempt is made to disguise the Biblical equal time request either as theory or as science or anything but an historical version of the subject. As Ralph Gerard observed in California, we may be faced, when teaching about reproduction, with requests to give equal time to the stork theory.

But one may well ask the value of including Biblical accounts only in relation to the theory of evolution. Perhaps this is simply the camel's nose in the tent. When we read quotes from popular creationists, we find a great deal of general antieducationism present. Mr. Prosser, a voluble creationist, says, "Public education is compulsory in nearly every state of our union now. If it were voluntary the whole low quality system would collapse because it has no merits of its own on which to stand." Later he states, "Prussian militarism, Hitler's Mein Kampf, Marx's Das Kapital, the holocaust of World War II, mass genocide, robber baron spoils, monopolies, and repressive racism, etc., are all based squarely on evolutionistic thought, particularly Darwinism." Lammerts, of the Board of Directors of the Creation Research Society, states in a recent communication, "Science in more ways than just evolution must be completely reorganized. In fact, our whole

civilization needs a fundamental going over and mechanization and all its horrible consequences--air pollution, highway networks, college and university complex of courses, federal bureaucracy need to be done away with." The antievolution movement is only a tip of an iceberg, an entering wedge of dogmatic control of education. A recent communication from a New York creationist indicates that the Second Law of Thermodynamics does not square with the Biblical promise of man's perfection, everlasting life, and a future in heaven. It is obvious to this group that entropy and the concept of heaven are irreconcilable. Again we have an attempt to bring classroom science teaching into conformity with a small group's interpretation of the Bible.

We are accustomed in biology to be harrassed for the content of our discipline more so than representatives of other sciences. Antivivisectionists condemn the use of animals for experimental purposes and even the maintenance of animals in the classroom; anti sex-educationists show concern over the explication of even the most primitive reproductive plumbing; antievolutionists feel that God is being denied his rightful place; and those who have fixations about nutrition, the germ theory of disease, and similar concerns with the content of biology, desire to remove or alter what they regard as offensive within the content of the discipline or to have access to the classroom to present their own particular positions. Allowed unlimited access to classrooms, special pleaders can not only prevent the effective teaching of science but ultimately destroy the effectiveness of the educational process. Occasionally one yearns for the sanctuary of mathematics where the community does not get exorcised about a number unless failing to make a seven on the first roll at Las Vegas. We are going to see more such attacks on science and on the integrity of the classroom. Henry M. Morris, writing in an Institute for Creation Research publication, suggests activities for creationists such as

creationist parents talking with teachers whom they consider bigoted or unfair toward their convictions and suggests "under some circumstances this might be followed up by similar talks with the principal and superintendent." He further suggests that cases of unfair discrimination against creationist minorities in classrooms should be reported to the proper officials.

It should be made clear that we are not dealing with an evolution/religion controversy. This was adequately demonstrated in testimony in California where the Rev. Robert Bulkley, who represented the Archdiocese of San Francisco, the San Francisco Council of Churches and the Board of Rabbis of Northern California stated that the insertion of creationist accounts in science textbooks is based on a profound misunderstanding of the respective rules of science and religion and he argued that it violated the constitutional separation of church and state. The Rev. James F. Church, Assistant Superintendent of Catholic Schools in Sacramento, warned that if creation is put in science books the state of California will be remembered more for a repetition of the monkey-trial error than for the great space achievements and Nobel Prizes of the California scientific community. The Rev. Hogan Fujimoto, Director of Education for the Buddhist Churches of America, said that the theory of special creation is offensive to members of his Church, who believe that the whole universe is constantly in the process of creation. The Rev. C. Julian Bartlett, Episcopal Dean of San Francisco's Grace Cathedral, said that the guidelines calling for the inclusion of creationist materials in California books were incredible, appalling, and preposterous. It is interesting to note that only creationists have asked for the special privilege of having access to science textbooks as a forum for their religious views.

What has been and continues to be lacking is a positive statement of the creationist position, together with the scientific evidence that supports it. In

January of this year I was challenged to public debate by Henry M. Morris and his letter was reproduced in full in BSCS Newsletter 50. He proposed to limit the debate strictly to scientific aspects of the question, which brought forth shades of Wilberforce. He proposed the debate topic as "Resolved that the special creation model of the history of the earth and its inhabitants is more effective in the correlation and prediction of scientific data than is the evolution model." In this, I noticed that theory had not only disappeared from the creationist vocabulary in relation to their own materials, but they have denied it to evolution. Since that time, I have requested on numerous occasions that Mr. Morris provide me with a statement of the creation model and the evidence supporting it. This has not been forthcoming. Until creationists can provide us with a positive statement of their own position and the facts that support it, they have themselves developed a dogma consisting of nihilistic attacks on the theory of evolution without presenting a defensible position of their own. Perhaps, were the creationist position to be delineated, one could then ascertain the evidence necessary to modify it. As evolution can be modified the same way any scientific theory can, we would expect to hear of the types of data that would modify the creationist position. Failing to state a creationist position, the facts that support it and the evidence necessary to modify it, is to indicate that evolution is a theory, creationism a dogma.